

WHAT IS CLAIMED IS:

1. A disc drive comprising:  
a head suspension assembly supporting a head;  
a transducer supported on the head suspension  
assembly to induce a transducer signal  
in response to head vibration; and  
a detector receiving the transducer signal  
and outputting a level detected signal  
indicative of head vibration.

2. The disc drive of claim 1 wherein the level  
detected signal is indicative of head-disc contact.

3. The disc drive of claim 1 wherein the detector  
includes a frequency filter.

4. The disc drive of claim 3 wherein the  
frequency filter is configured to pass at least one of  
a bending mode or torsion mode frequency.

5. The disc drive of claim 1 wherein the  
transducer is a piezoelectric material.

6. The disc drive of claim 1 wherein the  
transducer is an electrostatic transducer.

7. The disc drive of claim 1 and further  
comprising:  
a process controller coupled to the detector  
and configured to receive an outputted  
level detected signal and output a  
process command to reexecute the write  
command in drive memory

8. The disc drive of claim 1 and further comprising:

5 a microactuator controller coupled to the transducer and configured to transmit a signal to the transducer to move the head.

9. The disc drive of claim 1 wherein the disc drive includes a plurality of head suspension assemblies 10 and including a transducer coupled to each head suspension assembly.

10. The disc drive assembly of claim 1 wherein the transducer is configured to operate between a detection 15 mode and a actuation mode, in the detection mode, the transducer detecting head vibration and in the actuation mode the transducer moving the head.

11. The disc drive assembly of claim 12 including: 20 a microactuator controller coupled to the transducer and configured to operate the transducer in the actuation mode.

12. A method for operating a disc drive comprising 25 steps of:

30 (a) providing a transducer supported on a head suspension assembly configured to generate a transducer signal indicative of head vibration; and (b) detecting the transducer signal and outputting a level detected signal indicative of head vibration.

13. The method of claim 12 wherein the transducer is a piezoelectric transducer.

14. The method of claim 12 and further comprising 5 the step of:

(c) transmitting a signal to the transducer to move the head.

15. The method of claim 12 and further comprising 10 steps of:

(c) transmitting a command to rewrite a write command in drive memory in response to a level detected signal indicative of head vibration.

16. The method of claim 12 and comprising the step 15 of:

(c) filtering the transducer signal for vibration frequencies of the head.

17. The method of claim 12 wherein the disc drive 20 includes a plurality of head suspension assemblies and further comprising:

(c) detecting vibration for each of the 25 plurality of head suspension assemblies.

18. The method of claim 12 including a 30 microactuator controller coupled to the transducer and configured to transmit a signal to the transducer to move the head and comprising the step of:

(c) selectively operating the disc drive in a detection mode and an actuation mode, in the detection mode the transducer detecting head vibration and in the

actuation mode, the transducer moving  
the head.

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A disc drive assembly comprising:  
a head suspension assembly supporting a head;  
and  
means for detecting head vibration.